

Arlington High School
MSBA Project Benchmarks - DRAFT

		MSBA Project Benchmarks				
		Arlington HS	Waltham HS (Vocational Included)**	Belmont HS (Upper Middle Included)	Saugus HS-MS (Upper Middle Included)	Somerville HS (Vocational Included)
Base Info	Phase	Module 4, Schematic Design	Module 4, Schematic Design	Module 5, Detailed Design	Module 6, Construction	Module 7, Construction
	Project Type	New Construction (Phased/Occupied)	New Construction (Unoccupied)	Addition/Renovation (Occupied)	New Construction (Unoccupied)	Addition/Renovation (Occupied)
	Date Approved by District	Targeting: Spring, 2019	TBD	Fall, 2018	Summer, 2017	Fall, 2016
	Design Enrollment	1,755	1,830	2,215	1,360	1,590
PSR Stage Raw Data	Total Construction Cost	\$238,072,994	Unknown	\$237,594,715	\$127,885,357	\$199,191,461
	Total Project Budget	\$308,278,341	\$381,292,924	\$295,824,264	\$160,860,953	\$255,997,997
	Total Gross Sq. Ft.	415,292	429,638 (64,870 vocational)	445,100	271,320	373,373 (64,950 vocational)
	Total Gross Sq. Ft. of Non-Educational Program Space	53,575	Unknown	12,532	0	2,400
	Construction Cost Per Sq. Ft.	\$573	Unknown	\$534	\$471	\$533
	Project Cost Per Pupil	\$175,657	\$208,357	\$133,555	\$118,280	\$161,005
SD Stage Raw Data	Total Construction Cost	\$235,286,827	Unknown	\$236,647,607	\$127,685,356	\$199,051,710
	Total Project Budget	\$290,851,820	Unknown	\$295,159,189	\$160,720,553	\$255,982,704
	Total Gross Sq. Ft.	408,590	Unknown	445,100	269,070	369,496
	Total Gross Sq. Ft. of Non-Educational Program Space	29,365	Unknown	12,532	0	3,057
	Construction Cost Per Sq. Ft.	\$576	Unknown	\$532	\$475	\$539
	Project Cost Per Pupil	\$165,728	Unknown	\$133,255	\$118,177	\$160,995
SD Adjusted for Escalation*	Total Project Budget Escalated to AHS Schedule	\$290,851,820	\$381,292,924***	\$311,005,040	\$179,610,841	\$287,945,728
	Construction Cost Per Sq. Ft.	\$576	Unknown	\$560	\$531	\$606
	Project Cost Per Pupil	\$165,728	\$208,356	\$140,409	\$132,067	\$181,098
Module 3 - PSR MSBA Citation	http://www.massschoolbuildings.org/sites/default/files/edit-contentfiles/About_Us/Board_Meetings/2018_Board/8_29_18/Arlington%20HS%20PS%20Memo_Final.pdf	http://www.massschoolbuildings.org/sites/default/files/edit-contentfiles/About_Us/Board_Meetings/2018_Board/8_29_18/Waltham%20FSA%20Extension%200a%20Time%20Memo_Final.pdf	http://www.massschoolbuildings.org/sites/default/files/edit-contentfiles/About_Us/Board_Meetings/2018_Board/6_27_18/Belmont%20PS%20Memo_Final.pdf	http://www.massschoolbuildings.org/sites/default/files/edit-contentfiles/About_Us/Board_Meetings/2017_Board/2_15_17/Saugus%20PSR%20BaD%20Memo_Final.pdf	http://www.massschoolbuildings.org/sites/default/files/edit-contentfiles/About_Us/Board_Meetings/2016_Board/7_20_16/Somerville_PS_Memo_Final.pdf	
Module 4 - SD MSBA Citation	http://www.massschoolbuildings.org/sites/default/files/edit-contentfiles/About_Us/Board_Meetings/2019_Board/4_10_19/Arlington_HS_PS%26B%20Board%20Memo_Final.pdf	N/A	http://www.massschoolbuildings.org/sites/default/files/edit-contentfiles/About_Us/Board_Meetings/2018_Board/8_29_18/Belmont%20PSB%20Memo_Final.pdf	http://www.massschoolbuildings.org/sites/default/files/edit-contentfiles/About_Us/Board_Meetings/2017_Board/6_28_17/Saugus%20High%20School%20PS%26B%20Board%20Memo_Final.pdf	http://www.massschoolbuildings.org/sites/default/files/edit-contentfiles/About_Us/Board_Meetings/2017_Board/2_15_17/Somerville%20PS%26B%20Board%20Memo_Final.pdf	

*The Total Project Costs have been escalated to the AHS midpoint of construction. We are using the industry standard of 4% annual escalation.

**Waltham Process Notes: Waltham began the feasibility study process in 2016 and produced estimates for two sites that ranged from \$283 million to \$300 million. Neither of these town-owned sites were feasible, and in June 2018 the town council voted to use eminent domain to buy property for a new school. The shown Waltham Total Project Cost have been approved by the Waltham SBC in preparation for the 12/14/18 PSR Submission (Citation from 12/3/18 Meeting Minutes: <https://drive.google.com/file/d/18i8GaBMYgmAD0wOvz00HrYLoZQEORq/view>)

***Waltham's budget has not been escalated as the construction midpoint is projected to be 4 months ahead of AHS.

Comparison of MSBA Schematic Design (SD) Space Summary / Total Project Budget Forms

Proposed Space Summary (Based on SD)	Arlington HS	Belmont HS-MS	Saugus HS-MS	Somerville HS
	area totals (GFA)	area totals (GFA)	area totals (GFA)	area totals (GFA)
Core Academic Spaces	88,660	111,280	77,410	67,064
Special Education	32,690	24,310	14,490	18,842
Art & Music	15,200	16,150	13,250	9,731
Auditorium/Drama	12,440	14,200	10,400	10,895
Vocations & Technology	19,200	19,400	9,100	59,516
Health & Physical Education	36,830	54,642	24,830	39,377
Library Learning Commons	12,550	--	--	--
Media Center	--	13,744	8,400	8,569
Dinning & Food Service	13,710	16,698	11,140	12,148
Medical	1,510	2,140	1,210	1,310
Administration & Guidance	6,375	8,200	6,005	11,395
Custodial & Maintenance	2,960	3,437	2,645	2,818
Other	29,365	12,532	0	3,507
Total Grossing Factor	1.50	1.50	1.50	1.51
Total Building Gross Floor Area (GFA)	408,590	445,100	269,070	369,496

Total Project Budget (Based on SD)	Arlington HS	Belmont HS-MS	Saugus HS-MS	Somerville HS
	Feasibility Study Agreement Subtotal	\$2,000,000	\$1,750,000	\$1,850,000
Administration Subtotal	\$7,584,600	\$8,767,000	\$4,895,026	\$9,716,956
Architectural/Engineering Subtotal	\$21,078,647	\$20,800,000	\$12,189,816	\$18,705,171
Existing Building Demolition	\$3,136,000	\$1,836,375	\$1,313,375	\$5,476,093
In-Bldg. Hazardous Material Abatement	\$3,498,100	\$6,580,000	\$3,486,650	\$2,069,440
Asbestos Cont'g Floor Mat'l Abatement	\$780,000	\$520,000	\$360,000	\$1,000,000
Building Sitework	\$18,625,642	\$14,350,958	\$13,337,293	\$21,944,804
Construction Budget	\$235,286,827	\$236,647,607	\$127,685,356	\$199,051,710
Misc. Project Costs Subtotal	\$4,098,198	\$2,740,000	\$375,000	\$3,440,000
Furnishings & Equipment	\$8,073,000	\$7,088,000	\$4,896,000	\$5,096,000
Swing Space / Modular / Phasing	\$2,207,198	\$1,000,000	\$0	\$2,540,000
Design Enrollment	1,755	2,215	1,360	1,590
Total Building Gross Square Feet (GSF)	408,590	445,100	269,070	369,496
MSBA Reimbursement Rate	49.72%	\$40.66%	57.72%	73.87%
Total Project Budget (excluding contingencies)	\$281,006,272	\$278,959,189	\$152,091,198	\$241,546,035
Scope Items Excluded or Otherwise Ineligible	\$113,056,080	\$92,629,827	\$39,308,724	\$82,551,497
Construction Contingency	\$7,075,741	\$14,200,000	\$7,661,121	\$12,764,470
Owner's Contingency	\$2,769,807	\$2,000,000	\$968,234	\$1,672,199
Total Project Budget	\$290,851,820	\$295,159,189	\$160,720,553	\$255,982,704
Construction Cost Per Square Foot	\$576	\$532	\$475	\$539
Total Project Cost Escalated to AHS Schedule	\$290,851,820	\$311,005,040	\$179,610,841	\$287,945,728
Const. Cost Per Sq. Ft. Escalated to AHS Schedule	\$576	\$560	\$531	\$606
Project Cost Per Pupil Escalated to AHS Schedule	\$165,728	\$140,409	\$132,067	\$181,098

Other / Non-Program Spaces Breakout	Area Totals (GFA)
Arlington HS	35,645
Payroll	950
Community Education	1,810
School District Offices	9,455
LABBB (Unique to AHS, counted in Special Education portion of Space Summary)	6,280
Menotomy Preschool	17,150
Belmont HS-MS	12,532
Technology Workroom	900
Technology Offices	150
Technology Director Office	400
Technology Conference Room	200
Equity Academic Center	850
Metco Office	150
BEA Office	150
Food Service Director	150
Nurse's Office/ Waiting	150
Pool Pump Room	7,447
Locker Room / Pool	1,620
School Store	125
Resource Officer	120
Storage for Emergency Center	120
Saugus HS-MS	0
N/A	
Somerville HS	3,507
School Storage	346
SPS District Technology Office	1,077
Somerville City Cable	1,082
Health Suite	1,002

PLEASE NOTE: This information has been taken directly from each project's Schematic Design Submission. These figures have not been escalated to the AHS schedule. Waltham has not been included as they have not yet submitted a Schematic Design Report.

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Comparison of MSBA Preferred Schematic Report (PSR) Space Summary / Total Project Budget Forms

Proposed Space Summary (Based on PSR Submission)	Arlington HS	Belmont HS-MS	Saugus HS-MS	Somerville HS
	area totals (GFA)	area totals (GFA)	area totals (GFA)	area totals (GFA)
Core Academic Spaces	87,680	111,280	76,390	69,155
Special Education	31,560	24,310	13,680	19,959
Art & Music	15,200	16,150	13,250	11,120
Auditorium/Drama	12,440	14,200	10,400	10,800
Vocations & Technology	19,200	19,400	9,100	64,950
Health & Physical Education	37,028	54,642	28,150	39,829
Library Learning Commons	12,550	--	--	--
Media Center	--	13,744	8,400	7,500
Dinning & Food Service	13,708	16,698	11,540	12,035
Medical	1,510	2,140	1,320	1,310
Administration & Guidance	6,158	8,200	6,005	11,035
Custodial & Maintenance	2,942	4,347	2,645	2,818
Other / Non-Programmed Spaces	53,537	12,532	0	2,400
Total Grossing Factor	1.50	1.50	1.50	1.59
Total Building Gross Floor Area (GFA)	415,292	445,100	271,320	402,128

Total Project Budget (Based on PSR Submission)	Arlington HS	Belmont HS-MS	Saugus HS-MS	Somerville HS
Feasibility Study Agreement Subtotal	\$2,000,000	\$1,750,000	\$1,850,000	\$1,975,000
Administration Subtotal	\$8,132,555	\$8,767,000	\$4,895,026	\$10,415,356
Architectural/Engineering Subtotal	\$21,166,934	\$20,800,000	\$11,739,816	\$21,482,008
Existing Building Demolition	\$3,136,000	\$1,836,375	\$1,313,375	\$7,406,640
In-Bldg. Hazardous Material Abatement	\$3,318,100	\$6,580,000	\$3,486,650	\$0
Asbestos Cont'g Floor Mat'l Abatement	\$780,000	\$520,000	\$360,000	\$0
Building Sitework	\$8,111,665	Unknown	\$9,135,484	\$8,661,233
Construction Budget	\$238,072,994	\$236,647,607	\$127,685,356	\$197,820,084
Misc. Project Costs Subtotal	\$800,000	\$2,740,000	\$375,000	\$3,255,200
Furnishings & Equipment	\$11,056,500	\$7,088,000	\$3,263,200	\$5,096,000
Swing Space / Modular / Phasing	\$0*	\$1,000,000	\$0	\$2,355,200
Design Enrollment	1,755	2,215	1,360	1,590
Total Building Gross Square Feet (GSF)	415,200	445,100	294,586	369,496
MSBA Reimbursement Rate	49.72%	40.66%	57.72%	77.44%
Total Project Budget (excluding contingencies)	\$282,824,166	\$278,959,189	\$152,091,198	\$240,793,649
Scope Items Excluded or Otherwise Ineligible	\$98,038,794	\$92,629,827	\$39,128,388	\$83,218,254
Construction Contingency	\$16,969,450	\$14,200,000	\$7,661,121	\$11,869,205
Owner's Contingency	\$8,484,725	\$2,000,000	\$968,234	\$1,688,943
Total Project Budget	\$308,278,341	\$295,159,189	\$160,720,553	\$254,351,796
Construction Cost Per Square Foot	\$573	\$534	\$471	\$533
Total Project Cost Escalated to AHS Schedule	\$308,278,341	\$315,720,381	\$179,645,865	\$269,050,488
Const. Cost Per Sq. Ft. Escalated to AHS Schedule	\$573	\$564	\$527	\$532
Project Cost Per Pupil Escalated to AHS Schedule	\$175,657	\$142,537	\$132,093	\$169,214

Other / Non-Program Spaces Breakout	Area Totals (GFA)
Arlington HS*	53,537
Comptroller	1,350
Facilities Department	5,475
Payroll	2,325
IT Network and Offices	4,725
Community Education	2,700
School District Offices	13,380
LABBB (Unique to AHS, counted in Special Education portion of Space Summary)	6,810
Menotomy Preschool	16,810
Belmont HS-MS	12,532
Technology Workroom	900
Technology Offices	150
Technology Director Office	400
Technology Conference Room	200
Equity Academic Center	850
Metco Office	150
BEA Office	150
Food Service Director	150
Nurse's Office/ Waiting	150
Pool Pump Room	7,447
Locker Room / Pool	1,620
School Store	125
Resource Officer	120
Storage for Emergency Center	120
Saugus HS-MS	0
N/A	
Somerville HS	2,400
School Storage	300
Somerville City Cable	1,000
Health Suite	1,100

* PLEASE NOTE: Since the PSR Submission, The Arlington School Building Committee has decided, with direction from the Superintendent's office, and the Town Manager's office, to exclude the Comptroller, Facilities Department and IT Department from the AHS Building Project. This will lower the project's "Other/Non-Program Space" to 24,025 GFA.

PLEASE NOTE: This information has been taken directly from each project's PSR Submission. These figures have not been escalated to the AHS schedule. Waltham has not been included as their PSR, submitted on 12/14/18 is under review by the MSBA and has not yet been made public.

* The Arlington High School Phasing/Swing Space cost has been included in the overall cost per square foot as well as the Construction Contingency. The current plan does not require modular program spaces..

	Construction Schedule			Compared to AHS		Total Construction Cost	Compound Escalation Construction Cost (see table below for calculation)	Actual Soft Cost Percentage	Total Escalated Cost with Soft Cost Factor	Enrollment	Total Escalated Cost Per Pupil
	Start	End	Midpoint	Months	Years						
Arlington HS SD	7/1/2020	4/1/2025	11/15/2022			\$235,286,827	\$235,286,827	0.2361585377	\$290,851,820	1,755	\$165,728
Waltham HS** PSR	1/1/2021	1/1/2024	7/2/2022	4	0.3	Unknown	Unknown	0.2570000000	\$381,292,924	1,830	\$208,357
Belmont HS-MS PSR	12/3/2019	11/12/2023	5/16/2021	17	1.4	\$237,594,715	\$251,169,754	0.2570000000	\$315,720,381	2,215	\$142,537
Belmont HS-MS SD	4/15/2019	9/1/2023	6/23/2021	16	1.3	\$236,647,607	\$249,352,218	0.2472519488	\$311,005,040	2,215	\$140,409
Saugus HS-MS PSR	5/22/2018	8/2/2021	12/27/2019	34	2.8	\$127,885,357	\$142,916,361	0.2570000000	\$179,645,865	1,360	\$132,093
Saugus HS-MS SD	5/22/2018	8/2/2021	12/27/2019	34	2.8	\$127,685,356	\$142,692,852	0.2587234593	\$179,610,841	1,360	\$132,067
Somerville HS PSR	3/15/2018	11/3/2023	1/7/2021	22	1.8	\$199,191,461	\$214,041,756	0.2570000000	\$269,050,488	1,590	\$169,214
Somerville HS SD	4/1/2018	6/1/2021	10/31/2019	36	3.0	\$199,051,710	\$223,906,103	0.2860110772	\$287,945,728	1,590	\$181,098
Minuteman Reg. Voc. Tech. HS	6/19/2017	9/25/2019	8/7/2018	51	4.3	\$119,200,892	\$140,822,224	0.2570000000	\$177,013,535	628	\$281,869
Newton North HS*	7/1/2007	8/1/2010	1/14/2009	166	13.8	\$166,000,000	\$285,585,365	0.2570000000	\$358,980,804	1,850	\$194,044
Wellesley HS	9/29/2009	2/28/2012	12/14/2010	143	11.9	83,279,182	\$132,897,581	0.2570000000	\$167,052,260	1,480	\$112,873
Concord-Carlisle HS	7/1/2014	7/1/2016	7/1/2015	88	7.3	76,371,496	\$101,822,194	0.2570000000	\$127,990,498	1,245	\$102,804
Natick HS	9/1/2010	9/1/2012	9/1/2011	134	11.2	\$73,510,500	\$113,908,203	0.2570000000	\$143,182,611	1,281	\$111,774
Thompson ES	3/11/2010	9/1/2013	12/6/2011	131	10.9	\$15,130,244	\$23,445,071	0.2570000000	\$29,470,454	380	\$77,554
Gibbs MS	7/1/2017	8/1/2018	1/15/2018	58	4.8	\$19,000,000	\$22,965,791	0.2570000000	\$28,867,999	500	\$57,736

Compound Escalation Construction Cost														
Project	Belmont HS-MS PSR	Belmont HS-MS SD	Saugus HS-MS PSR	Saugus HS-MS SD	Somerville HS PSR	Somerville HS SD	Minuteman Reg. Voc. Tech. HS		Newton-North	Wellesley HS	Concord-Carlisle HS	Natick HS	Thompson ES	Gibbs MS
Construction Cost	\$237,594,715	\$236,647,607	\$127,885,357	\$127,685,356	199191461.0	\$199,051,710	\$119,200,892		\$166,000,000	\$83,279,182	\$76,371,496	\$73,510,500	\$15,130,244	\$19,000,000
Escalation Rate	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%		4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
term (years)	1.4	1.3	2.8	2.8	1.8	3.0	4.3		13.8	11.9	7.3	11.2	11.2	4.8
Compounding periods per year	1	1	1	1	1	1	1		1	1	1	1	1	1
Future Value	\$251,169,754	\$249,352,218	\$142,916,361	\$142,692,852	\$214,041,756	\$223,906,103	\$140,822,224		\$285,585,365	\$132,897,581	\$101,822,194	\$113,908,203	\$23,445,071	\$22,965,791

PLEASE NOTE: The Total Project Costs have been escalated to the AHS midpoint of construction. We are using the industry standard of 4% annual escalation. Actual Soft Cost Percentages are used for Arlington HS SD, Belmont HS-MS SD, Saugus HS-MS SD and Somerville HS SD. The average of these cost costs were then taken and applied to all other projects.

*Newton North construction schedule and construction cost is assumed from the following citations: (http://archive.boston.com/news/education/k_12/articles/2010/08/31/197m_later_newton_north_to_open/) (<https://doreandwhittier.com/newton-north-high-school.html>)

**Waltham construction timeline is assumed as a 36 month construction project starting on 1/1/2021 (the mid point being 4 months ahead of the Arlington High School Project midpoint). We have not escalated the Waltham budget as the construction midpoint is only 4 months ahead of Arlington's.